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Abstract

Corporate governance practices differ greatly in the United States and Germany. This paper describes the main institutional features of the German corporate governance system, focusing on universal banks and codetermination. The paper also summarizes existing empirical evidence that has investigated how- and how well- this system works.

Keywords: corporate governance in Germany, universal banks, codetermination

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UNIVERSAL BANKING, ALLOCATION OF CONTROL RIGHTS, AND CORPORATE FINANCE IN GERMANY

Financial markets are very important sources of corporate finance and corporate governance in the United States. Public and private markets for debt and equity securities issued by corporations outstrip the amount of financing provided directly by financial intermediaries by a wide margin. Hundreds of firms change hands each year on the stock market, many without the consent of incumbent management (i.e., via hostile takeovers). The influence of employees on matters of corporate governance is very diffused, exercised primarily through union representation and a limited amount of employee ownership of equity in pension or personal savings plans.

Capital allocation and corporate governance practices in Germany differ substantially from the U.S. model. German universal banks remain central to the provision of corporate finance to firms of all sizes. These banks lend directly to firms, take equity stakes under certain circumstances, and provide underwriting services to firms issuing debt or equity securities into the public market. Meanwhile, corporate debt and equity markets remain very small in relation to the size of the German economy. Corporate governance is dominated by universal banks and by non-bank block shareholders. Management and control changes tend to be arranged behind closed doors, often by the banks or other blockholders, rather than being carried out through a stock market takeover. In stark contrast to the U.S., there have been only a handful of hostile takeovers in Germany since WWII. Also in contrast to the U.S., many German employees have a significant direct voice in strategic corporate decision-making in addition to union representation and employee stock ownership.

Why do the corporate governance systems of these two economically advanced countries differ so much? What control mechanisms are present in Germany that are not in the U.S.? What empirical research has been done on these topics? This article attempts to answer these questions.

OVERVIEW OF CORPORATE GOVERNANCE IN GERMANY

The two most distinctive institutional features of corporate governance in Germany[1] are the extensive role of big universal banks and the strong influence of workers on corporate decision-making. Universal banks lend to firms, underwrite shares, hold equity positions, act as market makers at the exchange, sit on corporate boards, and exercise proxy votes for

shares owned by others.[2] These banks are undeniably powerful actors in the German economy and they have no parallel in the U.S. Even those who argue in favor of repealing the Glass-Steagall prohibition on the mixing of commercial and investment banking in the U.S. would likely shy away from granting any set of institutions the powers and privileges exercised by German universal banks. Appendix A provides some historical background on universal banking in Germany.

The second important distinctive feature of German corporate governance is the strong voice of workers in corporate affairs, institutionalized by laws concerning *Mitbestimmung*, or codetermination. It is not well known outside Germany that workers are guaranteed seats on many corporate boards by codetermination laws. Every large German corporation must reserve fifty percent of the seats on its supervisory board (board of directors) for employee representatives. In a few cases, employee representatives also hold seats on a stock corporations's management board (committee of the top executives). This type of widespread representation of workers' interests in corporate decision-making is unknown in the U.S. Appendix B describes the three forms of codetermination in Germany.

Universal banking and codetermination have common origins. Both are state or quasi-state institutional means of coordinating individual activities and of achieving social consensus. Although both universal banking and codetermination have profound implications for the allocation of private control and property rights, only codetermination derives its legitimacy and concrete form from statute.

The case of universal banks is more subtle. The major universal banks are privately owned, but they are sometimes described as quasi-state institutions. First, they are exempted from some forms of market discipline. In particular, they are widely perceived to be both "too-big-to-fail" and "too-important-to-be-taken-over." Second, universal banks are expected (and commonly said) to act with the public and/or national interest in mind rather than strictly seeking to maximize profits or some other narrow financial measure.

How would anglo-american and German corporate governance systems operate if they existed side-by-side in a a given country? Despite virtually unhindered flows of capital

and labor among developed countries, there are surprisingly few instances in which the corporate control systems of these two different economic traditions come into direct contact. One exception to this rule occurred recently in the context of a (rare) takeover battle in Germany.

During the spring of 1997, Fried. Krupp AG Hoesch-Krupp ("Krupp"), one of Germany's largest steel and engineering companies, launched a hostile takeover bid for Thyssen AG ("Thyssen"), its main competitor. The takeover attempt was financed by Deutsche Morgan Grenfell and Kleinwort Benson, the London-based investment bank subsidiaries of Deutsche Bank and Dresdner Bank, respectively (two of the three *Großbanken*). The soon-to-be CEO of Deutsche Bank, Rolf Breuer, publicly likened this takeover battle to a test of whether anglo-saxon style takeovers are feasible in Germany.

Strikes and demonstrations of furious Thyssen workers followed. The conservative German chancellor, Helmut Kohl, expressed his "deep concern" over this matter and asked the parties to "live up to their social responsibilities." Public outrage culminated in a demonstration outside Deutsche Bank headquarters in Frankfurt. Deutsche Bank, the largest bank in Germany and financial advisor to Krupp, backed down.

Bank leaders expressed frustration with what they called inconsistent public criticism. For years, the big German banks had been bashed for hampering the development of capital markets that would function in the anglo-saxon fashion. Yet now, when they attempted to use German financial markets for one of its best-suited purposes– effecting a rapid change in corporate control– they faced renewed criticism. If Germany is to have well-developed "anglo-saxon style" capital markets, they argued, all parties must accept the proposition that a principal outcome of stock market trading is to allow involuntary changes in corporate control. This mechanism enhances firm efficiency and may be the greatest contribution stock markets can make to overall economic efficiency (Manne, 1965). Appendix C provides further details on this takeover battle.

PHILOSOPHICAL TRADITIONS IN THE U.S. AND GERMANY

To understand these institutional features of corporate governance in Germany, and to appreciate how different they are from the anglo-saxon tradition, we must take a look back into the intellectual histories of Germany and the English-speaking world. In *Wealth of Nations* (1776), Adam Smith (1723-1790) argued in favor of a society based on individual decision-making which, coordinated by the invisible hand, would ensure the social optimum. Smith saw little need for central government planning:

> The sovereign is completely discharged from a duty, in the attempting to perform which he must always be exposed to innumerable delusions, and for the proper performance of which no human wisdom or knowledge could ever be sufficient; the duty of superintending the industry of private people, and of directing it towards the employments most suitable to the interest of the society. (Book 4, Chapter 9).

Although his writings circulated in Germany, Smith's worldview never really caught on there. Instead, Germans (as well as most other continental Europeans) have been more strongly influenced by the German philosopher, G.F.W. Hegel (1770-1831).

In *Philosophy of Right* (1821), Hegel agreed with Smith that markets turn "subjective selfishness into a contribution towards the satisfaction of the need of everyone else." In contrast to Smith, however, Hegel was pessimistic about some aspects of the outcome of unfettered market operations. Hegel predicted that unrestrained market exchanges would produce a class caught in a spiral of poverty.[3] Hegel called for a system of social contracts that would complement individuals' market transactions by collective bargaining arrangements and elements of central planning. As the provider of such a framework, the State should be a means towards the manifestation of the "common will." The principle underlying all of the institutions envisioned by Hegel– and rejected by Smith– is that the market should be guided and controlled in order to ensure that every individual is treated fairly in his or her transactions with "society as a whole."

Hegel's ideas continue to influence thinking in Germany to this day. The Hegelian concept of a market economy with a social component is enshrined in the modern German constitution, which proclaims that the Federal Republic is to be a *Soziale Marktwirtschaft*, or "social market economy." Market mechanisms are often viewed with suspicion in Germany, their results being regarded as chaotic, risky and unfair. As a result, numerous social contracts, such as the state-run pay-as-you-go pension system and collective industry-wide wage agreements, substitute for or complement market outcomes. These social contracts coordinate individual activities towards the "common will" and reduce the individual's idiosyncratic risks.

Hegel's influence extends to contemporary business practices in Germany. Writing in a survey of corporate control in Germany, Ellen Schneider-Lenné (1992)– who, until her early death in 1996, was a member of the management board of Deutsche Bank– describes the appropriate objectives of a German firm:

> The objectives of German companies, however, do not stop at maximization of the return on investment. Their philosophy is based on 'the concept of the interest of the company as a whole,' a key concept of German corporate culture.

> The company is seen as a combination of various groups whose goals have to be coordinated. The company's prime objective is doubtless the survival over the long run. Alongside this, however, the long-term interests of its employees, customers, suppliers, and the general public have also to be taken into consideration. The creation and maintenance of jobs with attractive working conditions has special priority. There is also a growing sense of responsibility towards the environment. In Germany the enterprise is considered to be embedded in society, and since it profits from society it also has obligations towards it. This commitment is rooted in the German constitution which says that ownership entails obligations.
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> The widely varying conflicts of interest that can arise between individual groups within the company and outside are usually resolved by compromise. One might, therefore, call it a 'consensus model' (p. 16).

THE INSTITUTIONAL FRAMEWORK: INTERNAL AND EXTERNAL CORPORATE CONTROL SYSTEMS IN GERMANY

This section provides an overview of the institutional framework within which internal and external control mechanisms are exercised in Germany. Internal control mechanisms include a firm's bylaws and the powers exercised by shareholders at the annual meeting, as well as the two-tier board system that is designed to guide the firm on a daily basis and to provide an early-warning system when problems and threats arise. External control mechanisms include product market competition, political, legal, and regulatory controls, and the capital markets, primarily the stock market. Large block shareholders and universal banks are the two most prominent stakeholder groups that effectively span the internal and external control environment. The next section of this article examines how well these key stakeholders perform their corporate governance functions.

Internal Control Systems: Annual Shareholder Meetings

The most basic internal control mechanism of any publicly traded firm is the annual shareholder meeting. This is the only occasion on which the management team is obliged to listen to shareholders' views and to answer their questions. It is the only vestige of democracy in modern corporate governance. However, very few small shareholders vote at annual meetings, calling into question the ability of this control mechanism to provide appropriate governance of corporate decisions.

The most important outcome of the annual shareholder meeting is the election of supervisory board members, who function as the shareholders' representatives throughout the rest of the year. Other important decisions made at this time include the possibility of offering new shares for sale as well as what fraction of the year's profit to retain and what fraction to pay out as dividends.

Shareholders in Germany who do not plan to attend the annual meeting are allowed to transfer their voting rights to someone else, either a natural person or an institution. Small shareholders and blockholders alike make use of this right to designate a proxy (a "stand-in") to vote their shares. Blocks held by individuals are frequently voted by bank executive directors or other trusted individuals. Also, some blocks owned by foreign governments are regularly voted by German banks. Most small shareholders who bother to vote designate either a bank or a shareholder association (an organization pledging to safeguard small shareholders' interests) to be their proxy.

Legally, shareholders may transfer their voting rights to any person or institution. Universal banks have a competitive advantage over other parties in obtaining proxy voting powers, however. This is because universal banks provide the vast majority of retail brokerage services in Germany and most equity shares are in bearer form (i.e., anonymous as opposed to being registered with the company issuing them, as in the U.S.). Shareholders typically need custodial services to safeguard their shares, and custody is a basic banking business. It is a small step in the minds of most retail shareholders to transfer their voting

rights to the bank that physically holds their shares. The banks also hold an informational advantage by knowing who owns shares in the first place.

Authority for bank proxy voting must be granted by shareholders in writing and must be renewed at least once every 15 months. Shareholders may revoke their prior authorization at any time in writing. The bank must mail the upcoming agenda to shareholders in advance of the annual meeting, indicating how the votes will be cast unless otherwise instructed by the shares' owner. Unless a shareholder replies with explicit voting instructions, the bank votes the shares as it previously indicated it would.[4] Only about three percent of the shareholders who use bank proxy voting give such instructions (Körber, 1989).

Proxy voting by banks was severely criticized by the government's antitrust commission when it examined competition in the German economy (*Monopolkommission*, 1978). The commission determined that banks controlled at least five percent of the votes at the 1975 annual meetings of 56 out of the 100 largest stock corporations (*Monopolkommission*, 1978). In these 56 cases, banks cast about 50 percent of the votes at the annual meetings by virtue of their proxy voting alone. In 30 cases, banks cast over 50 percent of the votes when counting both their own shares and the proxy votes they controlled; in eleven cases, banks cast between 25 and 50 percent of the votes; and in 15 cases, banks cast between five and 25 percent of the votes. Similarly, Böhm (1992) confirms that banks (primarily the then three large private universal banks, Deutsche, Dresdner and Commerzbank) dominated many shareholder meetings in 1986.

Voting patterns at the annual meetings of the banks themselves epitomise the danger that proxy voting may create disenfranchised shareholders. Based on data from 1986 shareholder meetings, Gottschalk (1988) reports that if the three large universal banks had voted together as a block– including both their own and the shares they voted in proxy–, they would have commanded a majority of the votes at each bank's annual meeting. This was true despite the fact that none of the banks itself owned more than a trivial amount of shares in either of the other two. It must also be stated that the banks do not actively compete for

proxy votes; these are merely a byproduct of their large branch and retail brokerage networks, as noted before.

Table 1 shows that shareholder representation at annual meetings of large firms with dispersed ownership is low and declining, even though proxy voting is available. For example, the fraction of outstanding shares actually voted at the 1994 annual meeting of Schering, a pharmaceutical company without a large blockholder, was a mere 36.7 percent.

Internal Control Systems: The Two-Tier Board System

German stock corporations operate with a two-tier board system. The *Aufsichtsrat*, or supervisory board (board of directors), consists of shareholder representatives and worker representatives in fixed proportions. This board consists of non-executive directors (in contrast to U.S. practice, where executives often dominate the board of directors), although the chairman is often a former CEO. The supervisory board typically meets two to four times a year in order to oversee the second-tier *Vorstand*, or management board, a committee composed of the firm's top current executives.

Shareholder representatives on the supervisory board are normally elected at the annual meeting for a term of four years. In some cases, however, blockholders have the right to directly appoint supervisory board members. Reappointments are permissable for both supervisory board and management board members.

German supervisory boards are strongly influenced by the presence of worker representatives (employees and labor union executives), who are guaranteed seats by codetermination laws. Table 2 illustrates the board composition of the 100 largest firms in Germany. The number of board seats held by private banks has been declining in recent years. This is in part a response to public criticism of "excessive accumulation of power" by banks through board representation in excess of their direct ownership of stock. It should be noted however, that bankers are often nominated to serve on supervisory boards by the firms themselves.

The chairman of the management board functions as the firm's CEO. The supervisory board appoints the members of the management board for a term of up to five years. Major decisions of the management board typically require the supervisory board's approval.

External Control Systems: The Legal Environment

No corporate governance system can function without legal protections of investors' property rights. More specifically, the rights to own and dispose of equity shares in a firm and to vote on corporate matters that may affect the value of an owner's investment are fundamental to a well-functioning capitalist economy.

Several aspects of the legal environment in Germany are inimical to shareholders' rights, reducing the effectiveness of external control mechanisms such as the stock market. Instead of reviewing the perennial and widely recognized problems created by Germany's high tax rates, restrictive labor laws, and other essentially macroeconomic distortions, we focus on three microeconomic features of the legal environment: codetermination laws, voting restrictions, and the existence of shares with multiple votes. The common denominator in the latter two institutional features is a deviation from the one-share-one-vote principle that underlies the efficiency and legitimacy of corporate governance arrangements (Grossman and Hart, 1988; Harris and Raviv, 1988).

Codetermination laws are a critical aspect of the legal environment in Germany. This is because they impinge on shareholders' basic rights to exercise voting control over the firm's assets. It is usually thought that those who bear the residual risks of a firm's performance– the equity owners– should be able to make the key decisions that contribute to those outcomes. Codetermination partially unbundles residual control rights from residual cash flow rights. These laws allow employees to influence corporate decision-making in ways that may conflict with the interests of shareholders.

A second category of legal infringement of the property rights of shareholders in Germany is the existence of voting restrictions in corporate charters. A voting restriction is a

ceiling on the share of total votes that a blockholder is allowed to cast at the annual meeting, regardless of the investor's share of contributed capital. A typical limit is between five and 25 percent of the total votes outstanding. Any investor who holds a block larger than the ceiling amount effectively loses normal voting rights on the shares in excess of the ceiling. Of course, this means that the blockholder's stake provides less than one vote per share on average, and all other shareholders correspondingly receive more than one vote per share.

The first voting restrictions were introduced by Germany's Federal Government in the course of privatizing Volkswagenwerk in 1960. Initially, the limit was set at two percent but later it was raised to 20 percent (in 1970).[5] Voting restrictions enjoyed some popularity after the first oil price shock in the 1970s when investors from the Middle East began acquiring blocks in German firms. A common fear at the time was that these foreign investors would take control of blue chip firms. Presumably, this loss of domestic control would lead to some harm to the nation's vital interests. As of October 1997, nine out of 800 traded firms had voting restrictions of some kind (*Hoppenstedt Aktienführer 1998*, 1997). It should be noted that both of the recent successful hostile takeovers in Germany succeeded despite the presence of voting restrictions.[6]

The third pertinent feature of the legal environment in Germany is the prevalence of shares with multiple votes. The stock corporation law does not allow the issuance of such shares today, but firms with existing shares with multiple votes have not been forced to convert them into ordinary shares. These shares (preferred voting stock) are not traded at the stock exchange; they are a way for large shareholders to retain control over the firm without increasing their investment in the firms when new shares are issued. As in the two cases already discussed, shares with multiple votes effectively deprive other investors of the voting power their shares would command in a one-share-one-vote regime.

A prominent example of shares with multiple votes is provided by Siemens AG, where the founding family recently held a 5.29 percent stake in the common stock, but had a 100 percent stake in preferred voting stock (as of October 1996). This preferred voting stock gives the family holders six votes per share on issues specified in the charter. Thus,

allthough the overall investment of the family amounts to only 6.94 percent of the capital, the family controls 14.03 percent of the votes on these special issues.

External Control Systems: The Stock Market

The stock market disciplines a publicly traded firm's management by pricing the firm's overall performance. Moreover, it is the stock market where control over the firm is traded. In principle, the stock market auctions every firm's assets each day to the team of investors and managers that believes it can create the most value by using them.

Are there alternatives to the stock market as an external control mechanism? The product market (that is, how successful the firm is in selling its products and services) provides an important input for the stock market evaluation process rather than providing an efficient substitute for it. This is because discipline of a firm by the product market alone is likely to be very slow in coming and quite disruptive– i.e., culminating in bankruptcy– when it does occur (Townsend, 1979; Gale and Hellwig, 1985; Jensen, 1993). Bankruptcy in turn leads to a shift of control from shareholders to bondholders, who may not be the best parties to run the firm (Aghion and Bolton, 1992).

This section describes several important features of the German stock market in terms of its ability to function as an external corporate control system. In particular, we discuss the historically limited scope of the stock market in Germany, the extent and nature of shareholder concentration, the scarcity of hostile takeovers, the role of the pay-as-you-go private pension system in retarding financial market development, the role of mutual funds, and finally, the importance of cross shareholdings and pyramid ownership structures.

Role of the stock market. Stock markets have traditionally been of little importance as a corporate control mechanism in Germany. There were 686 stock-exchange traded corporations in Germany at year-end 1956, with total market value equal to 11.6 percent of GDP. At the same time, there were 2,969 traded firms in the U.S. with market capitalization of eight percent of GDP (Securities and Exchange Commission, 1958, pp. 62, 228). By the end of 1995, there were 802 traded stock corporations in Germany with total market value

equal to 24 percent of GDP (Deutsche Börse AG, 1997). In the U.S., on the other hand, some 8,027 traded firms accounted for a market capitalization equivalent to 105 percent of GDP (Wall Street Journal, 1998, pp. 395-7). Appendix D provides further details on the German stock market.

By way of contrast, assets held by the banking sector are relatively more important in Germany than in the U.S. The assets of the banking sector (not including the central bank) amounted to 297 percent of GDP in 1960 and 234 percent in 1996. The corresponding figures for the U.S. were 66 percent in 1960 and 78 percent in 1996.

Shareholder concentration. One important feature of the German stock market is the prevalence of large blockholders, that is, individuals, families, or firms that hold a high percentage of the outstanding stock of a single traded firm. Blockholders are quite important for controlling firms' managers because concentrated ownership mitigates the free-rider problem that afflicts firms with many small shareholders, none of whom has strong incentives to monitor the management. An alternative to concentrated ownership is the presence of a delegated monitor who represents dispersed owners, such as a universal bank armed with the power to vote small shareholders' stakes in proxy.

While mandatory disclosure of shareholdings over five percent of the outstanding equity has existed in Germany only since 1995, earlier estimates of block ownership (such as the *Hoppenstedt Aktienführer*) were reasonably accurate (if known only after a lag), since blockholders' stakes were revealed when voting at annual meetings.[7] Table 3 provides information on the identity of the largest blockholders in German firms based on Hoppenstedt data as of September 30, 1993, as used in Gorton and Schmid (1998a).

Table 3 shows that only nine out of 198 large German firms (4.5 percent) had no blockholders at all (that is, all shares were dispersed among small shareholders). Of the 189 firms with blockholders, 165 firms had at least one blockholder with a stake of 25 percent or more. Some 125 firms (63 percent of the sample) had a blockholder with at least 50 percent of the equity, and 61 firms (31 percent) had a blockholder with a share of at least 75 percent.

This high level of shareholder concentration in Germany exceeds that in the U.S. and some other countries by a wide margin (Franks and Mayer, 1994, p. 7).

As noted above, universal banks also hold blocks. However, banks are relatively unimportant as blockholders on average. Individuals or families as well as non-financial firms are more important blockholders. Gorton and Schmid (1998a) found that only 39 of the 198 firms in their sample (20 percent) counted a bank among their blockholders, and these blocks were smaller than typical blocks when they did exist. In only three firms did a bank hold a block of 50 percent or more. Table 4 provides details on the equity stakes held by the ten largest banks in all German corporations. The table shows that, while the number of firms in which banks hold equity positions has increased over the last decade, there has been a decline in the frequency with which these stakes give banks outright control or a blocking minority position. Restricting our view to traded firms only, the bottom part of Table 4 shows that banks' equity stakes have actually been falling in recent years (from 46 to 30). As was true for the set of corporations as a whole, banks' equity stakes in traded firms are increasingly those of a minority shareholder when they exist at all.[8]

Similar conclusions emerge when looking at overall bank equity ownership patterns (i.e., counting all shares owned, not just those in large blocks). The ten largest private banks held only 1.3 percent of the face value of corporate equity in 1976, while in 1994, this number was a mere 0.4 percent (Bundesverband deutscher Banken; http://www.bdb.de).[9]

Hostile takeovers. Only a few hostile takeovers have occurred in post-WWII Germany and there has never been a management-led leveraged buyout (LBO).[10] One reason for the relative inactivity of the market for corporate control in Germany is the unusually small number of listed firms in comparison to the size and vitality of its economy. However, there are two other (not mutually exclusive) explanations that have been suggested. First, takeovers by means of stock market transactions may be more costly in Germany. Taxes, legal and regulatory impediments, and other transactions costs are significant in Germany (see Appendix E for a description of recent reform efforts). Second, control mechanisms other than stock market takeovers may be more effective in removing corporate inefficiency in Germany. Universal banks and other large investors may be able to execute restructurings

and control transfers behind the scenes at lower cost than is possible on the stock market. Takeovers may create costs for many "stakeholders" in the affected firms, some of which are not taken into account by the parties who initiate the change in control (Shleifer and Summers, 1988).

Private pension system. One factor that contributes to the underdevelopment of the German stock market is the rather undeveloped nature of the private pension system. Most importantly, private pensions (*Betriebsrente*) are provided voluntarily by only some of the larger firms. Only about 50 percent of currently employed workers in western Germany will receive private pensions, and virtually no workers in eastern Germany can expect private pension benefits (Bayerische Landesregierung, 1995). Second, private pension payments typically represent a supplement of only about ten to 30 percent on top of a typical retiree's pension from the state-run system. Finally, Germany's private pensions are overwhelmingly provided on a pay-as-you-go (PAYG) basis. While this financing principle applies to public old-age and disability insurance systems around the world, it also applies to corporate pensions in Germany (Schneider-Lenné, 1992). Instead of paying contributions for employees' pensions into a separate pension fund, German employers merely make provisions on their balance sheets. Only current pension obligations require current expenditures. Of course, this means that accrual of future pension liabilities provides a source of financing (cash flow) for current corporate activities.

In a fully funded pension system, on the other hand, increases in future pension liabilities must be matched with current cash outlays to purchase pension assets, usually long-term financial assets like stocks and bonds. The PAYG nature of private pension provision in Germany therefore has two effects, both of which reduce the importance of markets for long-term financial assets. First, pension provisioning on the balance sheet reduces the demand for financial assets to fund pensionholders' accounts. Instead, pensionholders receive non-securitized claims on their employers. Second, the ability to effectively finance current operations by increasing pension liabilities reduces firms' supply of long-term financial assets to the market. Consequently, a country like Germany with a PAYG

private pension system will have a smaller capitalization of stock and bond markets along with lower trading volumes.

Investment funds. Another retarding factor in the German stock market environment has been the late start of mutual fund investing, a convenient and low-cost way for households to accumulate long-term financial assets. As late as 1960, investment funds' holdings of stock were essentially zero. By 1990, this figure had risen to 4.3 percent of stock market capitalization and it had increased further to 7.5 percent by 1995. The fact that mutual funds have grown this fast in recent years indicates that German households are concerned that the state-run pension system will not be able to provide the level of pension payments in the future that it did in the past. Of course, we cannot say for sure whether the growth of stock mutual funds means that households have increased their overall holdings of stock relative to other investments. Official statistics do not reveal all indirect holdings of stock, including shares held by the public sector, by firms other than stock corporations, and by foreign investors. Some portion of these holdings will benefit individuals through indirect means.

Based on direct ownership data, the fraction of domestic shares held by domestic households fell from 31.8 percent in 1960, to 16.9 in 1990, and further to 14.6 in 1995. Other shareholder categories are nonfinancial firms, financial firms, the public sector and foreign investors. Since it is not known what fraction of stock is owned by firms other than stock corporations (i.e., closely held firms, which may be indistinguishable from households), the fraction of stock directly or indirectly owned by households remains unknown.[11]

Cross shareholdings. A cross shareholding is an equity position one firm holds in another firm. It is possible for a web of cross shareholdings to exist in which firm A holds equity in firm B, which holds equity in firm C, which, in turn, holds an equity stake in firm A. It may be difficult or impossible for an outsider to make a takeover bid or even to acquire a significant stake in a firm the shareholder structure of which is enmeshed in a complex cross shareholding arrangement.

The most significant cross shareholding structure in Germany is centered on Allianz AG, the holding company of Europe's largest insurance group. This network of cross

shareholdings encompasses several other important financial firms, including Munich Re, the world's largest reinsurance company, and both Deutsche Bank and Dresdner Bank, two of the largest German banks. The most common size of the stakes held in this network are of five, ten, or 25 percent of the the target's equity. Some cross shareholdings were eliminated recently as a result of the merger of Bayerische Vereinsbank and Bayerische Hypotheken- und Wechsel-Bank, each of which comprised nodes in the Munich-based network surrounding Allianz.

It is likely that more cross shareholdings will be eliminated in Germany (and in Europe as a whole) as the financial services sector consolidates. It has long been said that one of the purposes of cross shareholdings was to prepare for and facilitate consolidation. This is particularly likely to be true in the case of cross-border cross shareholdings within Europe.

Pyramids. Pyramids are a particular form of interfirm shareholding arrangement in which firm A holds a stake in firm B, which holds a stake in firm C. The distinguishing characteristic of a pyramid arrangement is that firm A is attempting to maximize its control over firm C while minimizing its financial investment in firm C, either directly or indirectly. Hence, a broad base of assets is controlled by a narrow pinnacle of equity investment. For example, if firm A holds a stake of slightly more than 50 percent in firm B, which in turn owns slightly more than 50 percent of the votes in firm C, then firm A can effectively exercise control over firm C with just over 25 percent indirect ownership of the voting stock of firm C. Without the pyramid structure involving firm B, control over firm C would require firm A to hold more than a 50 percent direct investment.

There have been numerous cases of pyramiding among German firms. Some are motivated by the desire to "disenfranchise" minority shareholders, but many appear to be attempts to deal efficiently with more legitimate governance problems, such as joint ventures or relationship-specific investments. [12]

Joint ventures are sometimes organized as subsidiaries owned jointly by the parties to the venture. A joint-venture subsidiary may in turn create other joint ventures, which are also organized as subsidiaries. Minority shareholders may be invited to hold stakes in some of the

subsidiaries not so that they may be expropriated by the majority or controlling firms, but in order to promote cooperation at least cost to the ultimate organizers.

Another reason for pyramid-type interfirm shareholdings involves relation-specific investments or commitments made by customers or suppliers. If agents transact repeatedly at various stages of production, a pyramid may emerge as an effective way for a firm to assure reliable supply or demand. In these cases, pyramiding is essentially a form of vertical integration.

A case watched closely by German competition authorities involves RWE AG, the largest utility in Germany. Local and regional administrative bodies in the state of North Rhine-Westphalia held about 59 percent of the votes in RWE as of October 1997. Both RWE and these public bodies are engaged in large-scale construction projects on an ongoing basis. RWE owns a 56.1 percent stake in Hochtief AG, a construction firm (41.1 percent direct; 15 percent indirect). Furthermore, Hochtief holds a 24.9 direct stake in Philipp Holzmann AG, one of its few significant competitors (plus an option to buy another 10 percent stake held by Commerzbank AG). The motivations for RWE and the local authorities to build this pyramid structure are not clear, nor are the competitive effects it may have in the construction industry.

EMPIRICAL EVIDENCE ON THE EFFECTS OF UNIVERSAL BANKING AND CODETERMINATION ON CORPORATE GOVERANCE

We now turn to the empirical evidence concerning universal banking and codetermination as they affect corporate governance in Germany. As the previous section made clear, both internal and external control mechanisms are available for guiding and disciplining firms' managements. The institutions of universal banking and codetermination both shape and are shaped by the internal and external control environments in Germany. Hence, sorting out cause and effect in the highly interrelated and complex system of corporate governance in Germany (or any other country) is a formidable challenge.

Before beginning our review, it is worthwhile pointing out how meager the available empirical evidence on corporate governance in Germany actually is. There are only a few rigorous quantitative studies that analyze the influence of universal banking or codetermination on the performance of German firms. Those that exist are sometimes handicapped by small or unrepresentative datasets. These shortcomings can be traced directly to the paucity of readily available data on German firms' financial structures. Relatively few firms are publicly traded, and those that are do not face the type of disclosure requirements common in the English-speaking world.

To be sure, there are many narrative studies based on anecdotal evidence; these go back into the 19th century when Germany's economic ascendance was first widely perceived in Europe and the world. These studies have reached widely varying conclusions, however, not least due to their often barely concealed ideological or political agendas. This is true both within and outside Germany.[13]

The proliferation of conflicting viewpoints may have convinced some observers that there is no hope of drawing solid conclusions regarding universal banks, codetermination, or any of the other unique or controversial aspects of German corporate governance. We hope to dispel some of the skepticism that surrounds these questions by reviewing recent empirical work that begins to lay the foundation for reliable analysis.

Universal Banking

The first econometric analysis focusing on the influence of universal banks in Germany was conducted by Cable (1985). Subsequently, studies by Edwards and Fischer (1994), Franks and Mayer (1994), Kaplan (1994), Elston and Albach (1995), Schmid (1996a,b), Gorton and Schmid (1998b), and others appeared. Without exception, sample sizes in these studies are small by U.S. academic standards.

Universal banks, control structures, and firm performance. In a pioneering study, Cable (1985) investigated the influence of universal banks on the performance of German firms by analyzing a sample of 48 traded German companies. His observations were chosen from a

list of the 100 largest German companies in 1974. It is revealing to note that this list became available only because a government antitrust commission compiled the basic data and published their results (*Monopolkommission*, 1978). There had been no comprehensive publicly available source for even this rudimentary information previously.

Cable regressed financial performance on several characteristics of the firm's governance structure. Financial performance was measured with accounting data averaged over the period 1968-1972. Explanatory variables drawn from the firm's governance structure included the concentration of shareholdings among investors in the firm (measured by a Herfindahl index) and the fraction of votes exercised by banks at annual meetings in 1975, among others. Votes controlled by banks included both the shares they owned and the proxy votes they exercised for clients. The author also included several normalizing regressors, such as industry dummy variables.

Cable found positive and significant influences of shareholder concentration and bank voting power on firm performance. In other words, the more concentrated the ownership among the firm's shareholdings and the larger the proportion of votes cast at annual meetings by banks, the better was a firm's financial performance. These findings appeared to provide strong evidence for a positive influence of universal banking on the performance of German firms. Schmid (1996a) confirmed Cable's qualitative results while arguing that Cable's original methodology was suspect.

Cable's performance measure was flawed in two ways (Schmid, 1996a). Most seriously, Cable's observations of firm performance were for a time period *before* the firm's control structure was observed. The causal hypothesis being tested– that a firm's control structure affects its performance– requires precisely the reverse ordering. Thus, Cable's findings cannot be used to rule out the alternative hypothesis that it is good performance of the firm that *causes* high levels of shareholder concentration and bank voting power. Secondly, Cable's performance measure is difficult to interpret because he neglects interest expense, which is part of the return to the total capital resources of the firm. Cable used a measure relating net income to total assets instead of using either net income divided by

(book value of) equity (ROE, return on equity), or net income plus interest expense divided by total assets.

Gorton and Schmid (1998b) provided additional evidence that German firms' control structures are systematically related to their financial performance. Combining Cable's dataset with another compiled by Böhm (1992), Gorton and Schmid examined the relationship between several indicators of a firm's control structure and three different performance measures: ROE, ROA (return on assets), and the market-to-book ratio of equity (MTB). Using 82 observations from 1975 and 56 observations from 1986, Gorton and Schmid found that bank equity positions and shareholder concentration measures were generally positively and statistically significantly related to firm performance. Although the statistical significance of the relationship was not strong in every regression, the coefficients were never significantly negative.

For example, the null hypothesis that bank proxy voting makes no difference to firm performance could not be rejected in any of the specifications. On the other hand, Gorton and Schmid (1998b) found that direct ownership of shares by banks was significantly positively related to measures of market value. In particular, a one-percentage point increase in the fraction of a firm's shares held by banks was associated with an increase in the market value of the firm's equity of between 0.60 and 0.86 percent.

Gorton and Schmid (1998b) used their dataset to investigate several other hypotheses concerning universal banking and corporate governance. They found no evidence of a change in the relationship between bank-dominated control structures and firm performance between 1975 and 1986. They also found no evidence to indicate that universal banks face serious conflicts of interest in carrying out their roles as lenders, shareholders, and custodians (proxy voters) of small shareholders' shares.

To test for conflicts of interest, Gorton and Schmid (1998b) checked for nonlinearities in the impact of shareholder concentration, the banks' equity holdings and proxy voting on firm performance. The presence of such nonlinearities could indicate a conflict of interest of banks in their roles as equityholders and custodians of small shareholders' votes. Under the

conflict-of-interest hypothesis, the way banks use proxy votes depends on how much equity they own in the firm in question. Nonbank blockholders may alter but not eliminate the bank's conflict of interest, so there will be another nonlinearity in the relationship. On the basis of Gorton and Schmid's results, one cannot reject the hypothesis of no conflict of interest.

Relatedly, Edwards and Fischer (1994) concluded that German banks do *not* use the proxy votes they control to install their own representatives on supervisory boards. They reasoned from these results that banks do not act in the interests of small shareholders and therefore are subject to a conflict of interest. However, Franks and Mayer (1994) and Gorton and Schmid (1998b) provided evidence contrary to the findings of Edwards and Fischer (1994); that is, ownership does translate into supervisory board representation. Banks do not appear to interfere with shareholder representation according to actual ownership. This evidence to the contrary undermines the Edwards and Fischer argument, but cannot by itself resolve the question of whether there is a conflict of interest between universal banks and small shareholders.

How do universal banks affect firm performance? The bulk of the evidence reviewed above points to a positive effect of universal bank involvement on firm performance; Edwards and Fischer (1994) is the exception. These studies are very crude in one sense, however: they merely test for a statistical relationship, rather than providing much economic insight into what is taking place. A slightly different approach to the general question of the relationship between universal banking and firm performance is to look for specific mechanisms or channels through which universal banks may improve (or hinder) performance.

One strand of the corporate finance literature suggests that banking relationships may improve firm performance because so-called "internal" capital markets buffer firms from shocks that reduce the efficiency of financial intermediation in "external" (public) markets. Using evidence from Japan, Hoshi, Kashyap and Scharfstein (1990) concluded that "main-bank" relationships reduce firms' costs of financial distress.

Elston and Albach (1995) reported evidence for Germany pointing to reduced liquidity constraints when strong banking relationships were present. They compared a group of 29

firms that had significant bank ownership stakes in 1991 to another group of 92 firms without a bank blockholder in the same year. Elston and Albach (1995) examined the periods 1967-1972, 1973-1982, and 1983-1992, and found no liquidity constraints (defined as no correlation between internally generated cash flow and investment expenditures) in the first two subperiods for either group of firms. Finding a positive relationship in the latest subperiod only for firms without a bank blockholder, they concluded that firms with close bank ties have more reliable access to financial capital.

There are several problems with Elston and Albach's results, however. Most fundamentally, Kaplan and Zingales (1997) demonstrated that investment-cash flow sensitivities do not have a strong theoretical or empirical basis as a measure of financing constraints. Secondly, Elston and Albach make the inappropriate assumption that every bank's shareholding structure was invariant over the 25-year period they analyzed. Finally, they erroneously classified one industrial company as a bank, contaminating their bank ownership data.[14]

Is it universal banking or relationship banking that matters? A natural question to ask is whether the positive influence on firm performance associated with a banking relationship requires banks to operate as universal banks. Couldn't a strictly commercial banking relationship ease liquidity constraints just as well? In fact, some writers suggest that the traditional German *Hausbank* (house-bank) relationship is based on commercial rather than investment banking activities (Fischer 1990).

Schmid (1996b) argued that universal banking enhances firm performance above and beyond what commercial and investment banking can do separately. Using data for all 62 German stock corporations with bank shareholders at the end of 1990, Schmid found that firm ROE displayed a U-shaped pattern when plotted against the level of bank equity holdings. Underlying this pattern, Schmid found that a firm's interest rate on debt was monotonically increasing in bank equity holdings.

The logic of Schmid's (1996b) argument is that universal banks are able to price commercial and investment banking services jointly, a strategy that is not feasible when

commercial and investment banks provide their individual services independently. The reason why cross-subsidization may be beneficial in this context is the existence of a free-rider problem among shareholders. An individual shareholder who owns less than 100 percent of the equity would bear the full cost of monitoring but would receive benefits only in proportion to the ownership stake. This drives a wedge between the privately optimal level of monitoring and the socially optimal level, causing monitoring intensity to be too low.[15]

A bank that owns a small block will use an increase in voting power (associated with increased ownership) to divert earnings away from equity. As the bank's block becomes larger, however, the bank stands to earn a higher fraction of the net (after interest) income created by its active monitoring of firm management. This is why, at high levels of ownership, the bank's incentive to divert earnings away from equity declines with further increases in the size of the block. Taken together, these considerations lead one to expect a U-shaped relationship between a firm's ROE and the level of bank equity ownership.

There are two factors determining the ability of the bank to translate higher voting power into higher interest rates on bank debt. On the one hand, increasing the firm's interest burden increases the firm's tax shield. On the other hand, banks cannot increase the firm's interest payments arbitrarily. Competition from other banks limits the interest rate that the bank blockholder can impose on the firm. Taking these two effects into consideration, one would expect a monotonically increasing interest rate as a function of bank equity ownership.[16]

The large German universal banks have long been accused of "overcharging" for loans (Hilferding, 1910). Modern corporate governance theory provides more subtle and benign explanations of this phenomenon (for example, Rajan, 1992). The higher price charged on loans by universal banks may be an efficient mechanism for internalizing the benefits they create, but cannot capture, in their function as a delegated monitor for small shareholders.

The empirical evidence reviewed in this section provides some insight into the method and effectiveness of universal banking as a component of the German corporate governance

system. However, these results are of limited use for cross-country comparisons. This is because the importance and interrelationships of individual corporate control features vary across different financial systems. Therefore, the conclusions one may draw from studies of corporate governance in Germany do not necessarily apply to the U.S. or any other country. For theoretical discussion of the merits of the U.S. and German financial systems, see Hellwig (1991) or Allen and Gale (1995).

Codetermination

The first rigorous empirical research investigating the effects of codetermination on firm performance was FitzRoy and Kraft (1993).[17] Gorton and Schmid (1998a) and Schmid and Seger (1998) provided additional evidence on this topic.

Codetermination and firm performance. FitzRoy and Kraft (1993) examined the impact of the 1976 Codetermination Law on the productivity of 68 big German companies. Their sample was chosen to include firms that were required by the new law to increase from one third to one half the fraction of supervisory board seats occupied by worker representatives. FitzRoy and Kraft (1993) estimated a translog production function to measure firm productivity in both 1975 and 1983. The authors reasoned that these years represented the pre- and post-legislation environments and similar stages of the business cycle.

FitzRoy and Kraft (1993) estimated that the introduction of equal representation by worker representatives on supervisory boards reduced the 'value added' of the affected firms by 19.7 percent.[18] Moreover, the authors concluded that firm ROE declined by 5 percentage points as a result of the legislation. This is a substantial reduction given that the sample mean of ROE equaled only 9.3 percent in 1975.

Schmid and Seger (1998) analyzed a sample of 160 large traded stock corporations observed in 1975, 1986, and 1991. The study exploited publicly available information on bank proxy voting (as in Gorton and Schmid, 1998b) and obtained 64 observations by collecting the attendance lists from annual meetings. As in Cable (1985), Schmid and Seger regressed a financial performance measure– the market-to-book ratio of equity (MTB)– on

proxies for ownership and control characteristics as well as normalizing regressors such as firm size and industry dummy variables. As in FitzRoy and Kraft (1993), Schmid and Seger compared firms with equal representation to firms with one-third representation of workers on the supervisory board. In contrast to FitzRoy and Kraft, Schmid and Seger did not compare the pre- and post-legislation performance of a given firm but instead pooled their observations and used year dummies and firm-specific control variables to isolate the effects of codetermination.

Schmid and Seger (1998) measured the impact of codetermination by examining the regression coefficient on a dummy variable that took the value one if the firm had more than 2,000 workers, and was therefore subject to the new law, or zero if the firm had not more than 2,000 workers and was not affected. The results suggested that equal representation causes an eighteen percent decrease in share prices. In other words, shareholders would have been willing to give up around 22 percent of the current value of their pre-legislation investment in order to abrogate the Codetermination Law of 1976. This willingness to pay can be viewed as the market price of the loss of control rights suffered by shareholders.

Why does codetermination affect firm performance? Whereas Schmid and Seger (1998) estimated only how codetermination affected the market value of corporate control, Gorton and Schmid (1998a) investigated the underlying causes and ultimate consequences of codetermination in detail. Using a pooled time-series cross-section approach covering the 250 largest traded stock corporations during the 1988-1993 period, the authors confirmed that equal representation by workers on the supervisory board was associated with a negative impact on the firm's MTB, ROE, and ROA.

Gorton and Schmid (1998a) also found evidence that the participation of workers in investment decisions decreases the variance of ROA. Holding all else equal, this reduces the default probability of the firm. Because equity has limited liability (a put option on the firm's assets) but captures all positive deviations in firm returns, a lower variance of firm cash flows lowers the market value of equity. Gorton and Schmid estimated that the market value loss due to the introduction of equal board representation by workers was 12.2 percent, a bit lower than Schmid and Seger's (1998) estimate based on a smaller sample in different years.

Gorton and Schmid (1998a) also analyzed the compensation structures of the management board and the supervisory board. Earlier work by Kaplan (1994) had suggested that shareholders were just about as active in controlling German firms as they were in the U.S. Comparing 42 German firms with 146 U.S. and 119 Japanese companies over the period 1981- 1989, Kaplan found that firm performance and executive turnover were negatively related in all three countries (i.e., worse performance is associated with higher executive turnover). Building on these results, Gorton and Schmid showed that the compensation of both management board members and supervisory board members in German firms is positively related to firm performance, just as it is in the U.S. Furthermore, this pay-for-performance relationship is robust to changes in the underlying measure of firm performance, encompassing ROA, ROE, and log of MTB. Gorton and Schmid estimated that a one-percent increase in shareholder wealth raises the compensation of the management board by about 0.05 percent.[19]

The positive link between firm performance and supervisory board compensation documented by Gorton and Schmid (1998a) is surprising because only a few German firms apply explicit performance-related compensation schemes for non-executive directors. As it turns out, however, compensation appears to be implicitly performance-based. Gorton and Schmid also found that the compensation scheme varies with the codetermination regime that applies to the firm. The pay of non-executive directors is more sensitive to firm performance when workers have equal board representation than when only one third of the board is made up of worker representatives. Thus, it appears that shareholders provide stronger incentives for board members to act in their (the shareholders') interests when workers are more heavily represented. Gorton and Schmid found that the pay of supervisory board members rises by 0.19 percent with a one-percent increase in shareholder wealth when workers have less than equal representation, while the pay-for-performance elasticity is 0.34 when workers control one half of the supervisory board seats.

CONCLUSION

The corporate governance systems in Germany and the United States entail both similarities and differences. Frequent changes in corporate control occur in Germany,

averaging some 1,500 per year since the late 1980s (Bundeskartellamt, 1997). Likewise, control changes are a frequent occurrence in the U.S., with some 35,000 merger and acquisition events taking place in the U.S. during the 1976-90 period (Jensen, 1993, p. 837). However, the predominant methods by which control changes take place appear to differ between the two countries. Stock-market based control changes are frequent and sometimes contentious in the U.S., while other forms of corporate control appear to operate in Germany. Large blockholders exist in the vast majority of German firms, exerting strong control over the management. Sales of large blocks of shares are common, although they are seldom carried out directly through the stock market. Universal banks are often able to exercise control in firms with dispersed ownership, that is, when no other blockholder exists, by exploiting proxy voting authority granted by small shareholders.

Two distinctive features of the German corporate governance system are universal banking and codetermination. These institutional features are important for understanding the German system because they influence the ability of shareholders to exert control over the management of the firms they own. Relatively little empirical evidence is available to help in evaluating the effects of these institutions.

It is beyond the scope of this article to determine whether the German or U.S. system of corporate governance is superior to the other in any sense. Control changes brought about on stock markets or in the course of financial restructuring, as are common in the U.S., appear to generate value for shareholders. For example, Jensen (1993, p. 837) estimates that shareholders in firms acquired over the period 1976-90 received gains of $750 billion (expressed in terms of inflation-adjusted 1992 dollars). However, these control changes may have been costly for other "stakeholders" in the affected firms, including employees, communities, and bondholders (Shleifer and Summers, 1988).

More relevant to the German case, Jensen (1993, pp. 833-4) points out that the high level of activity in U.S. takeover markets– a mechanism for exercising corporate control that is *external* to the firm– is evidence that *internal* control mechanisms have failed. The German corporate governance system is oriented more toward internal than external mechanisms.

Large blockholders and universal banks are central to the functioning of internal control mechanisms. Thus, the lack of stock-market based takeover activity in Germany relative to the U.S. does not constitute evidence for or against either governance system. More research is needed to illuminate the underlying strengths and weaknesses of both systems of corporate governance.

APPENDIX A: UNIVERSAL BANKING IN GERMANY

Today's four largest private German banks (*Großbanken*) were established in 1869 (Bayerische Vereinsbank), 1870 (Deutsche Bank) and 1872 (Commerzbank and Dresdner Bank). This was around the time when the German Reich was founded under Prussian hegemony in 1871. It was the starting point of the *Gründerjahre* ("founding years") period, when Germany began to catch up to England in industrialization.

During the 17th and 18th centuries, Prussia transformed itself from a politically meaningless, poverty-stricken dukedom into a military power of significant influence on the European continent. It followed a mercantilistic tradition with the state functioning as central planner and orchestrator for the economy. At the same time, however, it allowed substantial freedom for individual business and financial activities. When Germany was founded, the same principles were applied to industrialize and modernize the economy.

Closing the economic and industrial gap with England was viewed as necessary for the survival of the young state in the presence of strong neighboring military powers in the west (France) and the east (Russia). The catch-up strategy involved establishing privately-owned *Großunternehmen* ("great firms") that at first simply copied production processes invented and first applied in England (see Chandler, 1990, on the strategies undertaken by various nations to industrialize rapidly). These firms were set up to operate on a large scale in order to serve the world market. Examples of *Großunternehmen* that soon innovated production processes and outperformed their smaller British competitors (Chandler, 1990) included BASF, Bayer and Hoechst, all of which were founded between 1863 and 1865. Today, these firms rank among the largest chemical companies in the world.

The German *Großbanken* ("great banks") played a key role in financing German industrialization. Although they were privately-owned, these banks were viewed (and viewed themselves) as quasi-state institutions (Shonfield, 1965). They soon developed into universal banks, conducting all lines of firm financing business. They lent to firms, underwrote securities and held equity positions (either temporarily or over a longer term). While equity

ownership gave these banks voting power, this was only one source of influence over nonfinancial firms. The number of controlling stakes was not an accurate reflection of their actual influence (Riesser, 1905). There were also many nonbank blockholders at that time (Steinitzer, 1908). Adding to the influence of these banks was their presence on corporate boards, their proxy voting of shares on behalf of small shareholders (sometimes without their explicit consent), and their market-making role at the stock exchange (Riesser, 1905).

Given this accumulation of power, the key industries of the time were largely controlled by a few *Großbanken* (Jeidels, 1905). As Hilferding (1910) points out, banks dominated all channels of external firm financing. Firms had no immediate access to the capital market (i.e., without the assistance of the banks). The banks were also able to influence firms' conduct of business, to initiate mergers among them, and to build and control industrial conglomerates.

for which freedom of speech is central to their mission. In addition, stock corporations with fewer than 500 employees that are owned by a family are also exempted.

Third, *Montan*-codetermination was extended to include more specific rules and procedures in 1956. This form of codetermination remains the most intrusive in terms of how it affects the corporate governance of the firm. Only ten companies remained subject to Montan-codetermination in 1997, compared to 49 in the 1960s.

Finally, under the Codetermination Act of 1976, any corporation that has more than 2,000 employees (and was not already covered by *Montan*-codetermination) must allow employees to elect one half of the members of the supervisory board. This law pre-empts the 1952 law. The supervisory board chairman is effectively elected by the shareholders' representatives and is given an extra vote to break ties, so there is no need for a neutral member.

The laws governing stock corporations allow individual companies some leeway to determine which decisions must be approved by the supervisory board. However, some types of decisions must be ratified by the supervisory board. Thus, workers are guaranteed a significant voice in the process of corporate decision-making in Germany.

APPENDIX C: THE THYSSEN-KRUPP MERGER

At the beginning of 1997, Fried. Krupp AG Hoesch-Krupp ("Krupp") and Thyssen AG ("Thyssen") were two of the largest German steel and engineering companies. Krupp was somewhat smaller than Thyssen, with total assets of DM 17.8 bn (end-of-fiscal year 1996) versus DM 25.5 bn for Thyssen (end-of-fiscal year 1995/96). In terms of European industry rankings, Thyssen was the 149th largest firm in Europe and Krupp ranked as number 273 (January 22, 1998, *Financial Times* "European 500" ranking).

The two firms had always been similar in some respects. Since WWII, both companies had acquired many other German steel-makers to expand their steel-making capacity. Both firms had transformed their steel divisions into subsidiaries (Krupp Stahl and Thyssen Stahl) in order to facilitate diversification by the parent company. Finally, both firms had focused their recent acquisitions on engineering.

These two industrial giants had their differences, as well. In particular, Krupp was the more forceful in pushing forward its restructuring efforts through capital market transactions. Gerhard Cromme, CEO of Krupp, had gained a reputation in the early 1990s for making aggressive acquisitions.

In 1991, Cromme announced Krupp's desire to enter into a close alliance with Hoesch AG. Krupp backed up Cromme's ambition by acquiring a 24.9 percent equity stake in Hoesch. This position had been built up in the course of the year with the help of a Swiss bank. It had remained unnoticed until Cromme's announcement because the threshold for mandatory public disclosure of block holdings in Germany was 25 percent at that time (it was changed to five percent in 1995; it is also five percent in the U.S.). Deutsche Bank had installed Kajo Neukirchen as CEO of Hoesch just a few months earlier and was caught by surprise when Krupp announced its intentions. Despite a 15 percent voting restriction (ceiling) imposed on any shareholder by Hoesch's corporate bylaws, Krupp overcame vigorous resistance by Neukirchen and merged with Hoesch in 1992.

For several years in the early 1990s, Gerhard Cromme had tried to find a way to merge Krupp and Thyssen. However, Cromme was never able to make any headway with Thyssen's CEO, Dieter Vogel. In the end, Krupp enlisted Deutsche Bank for one last takeover attempt– this time a hostile one. The takeover strategy itself was developed by Goldman Sachs of the U.S. and bore the telling code name "*Hammer und Thor*." Financing was arranged by Deutsche Morgan Grenfell and Kleinwort Benson, London-based investment bank subsidiaries of Deutsche Bank and Dresdner Bank, respectively.

On March 17, 1997, rumors spread that Krupp would launch a takeover attack on Thyssen. The next day, Krupp made its intentions public, announcing a tender offer for Thyssen. Krupp and Thyssen shares were suspended from stock exchange trading as details were communicated to the market. Thyssen made clear that it did not welcome the bid and considered the takeover attempt hostile. Infuriated Thyssen workers demonstrated in front of the Krupp headquarters. Thyssen Stahl, the steel subsidiary, was so disrupted by the takeover bid that its production was halted.

The state government of North Rhine-Westfalia, home to both companies, announced that talks on a merger of the steel subsidiaries of Krupp and Thyssen would take place on March 19th. In deference to these talks, Krupp suspended its takeover offer for a week. Thyssen Stahl resumed production, but Krupp workers at plants in Bochum and Dortmund then went on strike. On March 20th, the talks between the CEOs of Krupp and Thyssen began; Krupp and Thyssen shares began to trade again. Soon thereafter, Krupp workers in Bochum and Dortmund returned to work. Two days later, the supervisory boards of Krupp and its steel subsidiary met. On March 24th, Krupp withdrew the takeover offer.

At the end of March, Krupp and Thyssen announced the merger of their steel subsidiaries into Thyssen Krupp Stahl AG, to become effective April 1st. This company is now the largest steel-maker in Europe and the third largest in the world. Krupp CEO Cromme declared that the (failed) takeover of Thyssen was a sound plan, but that it had become obsolete due to the merger of the steel subsidiaries. Thyssen CEO Vogel, on the other hand,

claimed that the takeover plan had always been shaky, and he expressed his satisfaction that it had failed.

In August of 1997, the public learned that there had been more confidential talks about a complete merger of Krupp and Thyssen. In mid-September, the surprising results of these talks emerged. The management boards of both firms had agreed to a complete merger. The proposed merger received the approval of the supervisory boards of Thyssen (on January 22nd, 1998) and of Krupp (on February 5th, 1998) with thin majorities.

Sorting out the details of this megamerger will not be simple. Thyssen was subject to *Montan*-codetermination rules (i.e., specific to the coal and steel industries and more favorable to union representatives) while Krupp was subject to the regular form of equal representation (with a lesser role for trade unions). All ten worker representatives on the Thyssen supervisory board voted against the merger and the so-called "neutral member" of the board broke the tie in favor of merging. On the Krupp supervisory board, one worker representative voted in favor of the merger. Otherwise, the vote would have been deadlocked and the chairman would have been forced to use his second vote to break the tie. The new firm, Thyssen-Krupp AG, is not subject to *Montan*-codetermination and its strong trade-union influence. This may be one of the reasons why Thyssen's unionized workers resisted the merger so strongly.

In the executive suite, there was a dramatic race for the CEO position of Thyssen-Krupp AG. The decisive blow to Dieter Vogel's chances to head the new firm came from German authorities in December 1997, who filed charges against Vogel for corporate misuse of government subsidies. A compromise involving two CEOs was eventually reached. Gerhard Cromme will be one of the CEOs and Ekkehard Schulz, formerly head of the Thyssen steel subsidiary, will be the other.

The roles played by Deutsche Bank and Dresdner Bank in this takeover battle remain controversial in Germany. When Krupp launched its takeover attempt with the backing of the banks, the ex-CEO of Dresdner Bank and current chairman of its supervisory board, Wolfgang Röller, was a member of Thyssen's supervisory board. When his board term

ended at the end of March 1997, he was succeeded by Bernhard Walter, a member of the Dresdner Bank management board (and now its CEO). Even more delicate was the case of Ulrich Cartellieri, a member of the management board of Deutsche Bank and simultaneously a member of the Thyssen supervisory board. As a member of Thyssen's supervisory board, he had access to inside information that would have been valuable to Krupp, Deutsche Bank's client. As a member of the Deutsche Bank management board, he approved the takeover attempt. Haunted by sharp public criticism, Cartellieri retired from both positions on May 20th, 1997.

Source: "Die Welt", German Daily, http://www.welt.de

APPENDIX D: STOCK EXCHANGES IN GERMANY

Germany has eight stock exchanges, among which the *Frankfurter Wertpapierbörse* (Frankfurt Stock Exchange) is the largest with about 75 percent of total turnover. It is the fifth largest stock exchange in the world, following the New York Stock Exchange (NYSE), the U.S. NASDAQ (over the counter) market, and the London and Tokyo stock markets. In 1996, its trading volume amounted to 15 percent of the trading volume at the NYSE and to 70 percent of the trading volume in Tokyo. There were 681 firms listed on German stock exchanges in 1996, together with 123 firms that trade over the counter only. In the U.S., there were 2,172 firms listed on the NYSE, 5,167 on the NASDAQ, and 688 on the American Exchange (*Hoppenstedt Aktienführer 1998*, 1997).

A number of laws (*Finanzmarktförderungsgesetze*) have been passed in recent years aimed at improving the competitiveness of Germany as a financial center in Europe (*Finanzplatz Deutschland*). The *Frankfurter Wertpapierbörse* has been transformed into a stock corporation in which banks (as a group) hold the majority of votes (81 percent as of November 1996). Insider-trading rules have been tightened and market transparency has been improved. In the *1997 World Competitiveness Yearbook* (International Institute for Management Development, 1997), Germany ranks above Japan, France, and the U.S. in terms of its success in preventing insider trading. (For more information about recent developments affecting German stock exchanges, see http://www.bawe.de.)

There are three main market segments at the Frankfurt stock exchange. The first segment (*Amtlicher Handel)* listed 517 domestic firms at the end of 1996 plus 219 international firms (Deutsche Börse, 1996, p. 11). In November 1997, an electronic trading system for first-segment shares, known as Xetra (Exchange Electronic Trading), was launched. When it is fully operational at the end of 1998, it will have completely eliminated order books from the trading process. In other words, every buy and sell order will be matched and the process will be fully transparent to all market participants.

The second market segment (*Geregelter Markt*) has listing requirements less strict than those in the first segment. It serves mainly as a "launching pad" for young firms. There were 162 domestic listings and 30 international listings on this market segment at the end of 1996.

The third market segment is the over-the-counter market. There were 123 domestic and 1,136 international listings on this segment at the end of 1996. Listing requirements are minimal on this market segment.

Finally, an innovative new trading arena was introduced in March 1997 (*Neuer Markt).* This new market is meant to attract small and medium-sized, innovative companies, members of the so-called *Mittelstand.* Its disclosure rules are very strict and resemble U.S. practices. Firms must publish their financial statements in English, base their prospectuses on international standards, and accept a takeover code. This new market had 17 listed firms as of February 1998.

Although all firms that seek a listing on the *Neuer Markt* must sign on, there is currently no mandatory takeover code in Germany. Instead, the takeover code is a voluntary agreement outlining recommended practices. It was introduced in July 1995, and was amended and tightened in January 1998 (Bundesministerium der Finanzen, 1998). The revised voluntary takeover code had been signed by 61 percent of the DAX-100 firms as of February 2nd, 1998

The code requires that a bidder make a tender offer for all outstanding shares of the target once a controlling block in the firm has been acquired. Control is defined as ownership of more than 50 percent of the voting stock *or* the ability to cast at least 75 percent of the votes at the annual meeting, which may require less than 75 percent of the total shares outstanding since some shareholders do not vote. Block holdings are posted for public information at the official website of the *Bundesaufsichtsamt für das Wertpapierhandel* (the equivalent of the U.S. Securities and Exchange Commission), http://www.bawe.de.

The voluntary takeover code has met strong resistance from some companies. For example, BMW, Hoechst, and Volkswagen have refused to sign on because they believe a large shareholder should not be forced to bid for all of the firm's outstanding shares when the purpose of the block holding is to protect specific property rights associated with relation-specific investments.

APPENDIX E: MAJOR REFORM PLANS

A topic that has been discussed for many years in Germany is reform of the basic stock corporation law. The goals of such a reform would be to improve the transparency of the firm's ownership structure and to decrease the transaction costs incurred by participants in the market for corporate control (i.e., takeovers). This endeavor is motivated by the view that the stock market should play a greater role in the allocation of capital and control rights in Germany than it has done previously. Implicitly, the aim is to roll back the influence of banks and to give non-banks a stronger incentive to build blocks (Wenger, 1992). For the *Bundeskartellamt* (German antitrust agency) perspective on the reform of the stock corporation law, particularly with respect to restricting the influence of banks, see their website (http://www.bundeskartellamt.de).

The debate over reform of the stock corporation law has five themes: board representation, multiple voting rights, voting restrictions, proxy voting, and share repurchases.

- Currently, the maximum number of supervisory board seats any individual is allowed to hold is ten. The most likely change to this provision is to count the chairmanship of any supervisory board as the equivalent of two ordinary board seats.

- Most reform plans envision elimination of multiple voting rights (preferred voting stock). Elimination of shares with multiple votes is consistent with German and European guidelines that prohibit the issue of new stock with multiple votes. From the point of view of a firm with preferred voting stock already outstanding, the cost of issuing new equity is higher in the presence of this stock. This is because there is an "overhang" of votes that causes new shares to trade at a discount to the value they would command if they had full voting power (i.e., a one-share, one-vote ownership structure).

Shares with multiple voting rights are in fact disappearing. For example, RWE AG will convert its multiple voting stock into ordinary shares in accordance with a shareholder vote at its February 26, 1998 annual meeting. After years of haggling over this issue with the VkA (*Verband der kommunalen RWE-Aktionäre*, or "Association of Local and Regional

Governmental RWE Shareholders"), the management of RWE– which favored conversion– finally succeeded in passing such a resolution at the annual meeting. VkA held all of the outstanding preferred voting stock, each share of which carried 20 votes. As a consequence, VkA held 30.2 percent of the share capital but controlled 59.5 percent of the votes. To compensate for the loss of voting power, VkA will be given a one-time cash payment of DM 1.15 bn, which is a rough estimate of the value of the extra voting rights these owners previously enjoyed (http://www.rwe.de).

- Abandoning voting restrictions would substantially reduce the proxy voting power of banks. This is because, when there is a voting restriction in place, there is little incentive for shareholders to build blocks. The fraction of votes a blockholder can exercise is restricted and proxy voting by banks is unrestricted as long as the shareholders they represent do not exceed the limit of exercisable votes individually. However, small blockholders are sometimes able to organize and eliminate voting restrictions. For example, the voting restriction of Linde AG limited the voting power of each shareholder to ten percent of total voting stock outstanding. Over time, Commerzbank AG, Deutsche Bank AG, and Allianz each built blocks of around ten percent. Given the dispersion of the remaining shares, the joint voting power of these three blockholders was sufficient to eliminate the voting restriction at the 1997 annual meeeting.

- The most controversial part of reform efforts is the plan to restrict proxy voting by banks. Currently, any (legal or natural) person is allowed to vote in proxy. A proposed change is to restrict the use of proxy votes by banks to those firms in which the bank holds at least five percent of the voting stock. Such a rule would discriminate against banks in their role as custodians for small shareholders. However, it would not affect proxy voting by bank executive directors (as natural persons), who occasionally represent blockholders. Small shareholders would be forced either to let their votes go unexercised, to travel to the annual meeting, or to transfer their voting rights to other agents such as the *Deutsche Schutzvereinigung für Wertpapierbesitz e.V.* , an organization dedicated to protecting small shareholders' rights (http://www.das-wertpapier.de).

- Firms are interested in stock repurchases as a means of reducing their cash holdings; this is often seen as an effective anti-takeover device. Many large German firms have indicated that they would repurchase shares if it were allowed. Prominent examples include BASF AG and Schering AG (Die Welt, July 31, 1997).

Schering AG has been rumored to be a takeover candidate for years. The company has a voting restriction, which also functions as an anti-takeover device. Schering's only blockholder is Allianz AG, which holds a ten percent stake. Schering had a very liquid balance sheet at the end of fiscal 1996, holding liquid assets equal to 20 percent of its balance sheet total (*Hoppenstedt Aktienführer 1997*, 1997). Schering's CEO, Guiseppe Vita, has indicated that he would recommend elimination of the firm's voting restriction to the shareholders if share repurchases became legal (Die Welt, May 2, 1997).

There is little dispute that phasing out preferred voting stock, eliminating voting restrictions, and restricting bank proxy voting will all lower the transactions costs associated with the market for corporate control in Germany. Some costs may be incurred as a result, as well. Eliminating preferred voting stock will make it harder for an individual or a family to remain in control of a firm; there may be important private benefits of control that should be taken into account (Hart, 1995). The same is true of multiple classes of stock with differential voting rights, stock that is often held by local communities or by the family of the founder. Restricting bank proxy voting will increase the costs small shareholders face in having their votes exercised at annual meetings.

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TABLES

Table 1: Votes Cast at Annual Shareholder Meetings as a Percentage of Shares Outstanding

Company	1975	1980	1986	1990	1994
BASF	65.9	66.2	55.4	52.4	50.9
Bayer	64.9	67.5	52.9	47.2	48.4
Continental	72.9	65.0	35.1	58.7	47.3
Daimler-Benz	93.0	89.7	80.4	78.6	70.8
Hoechst	69.6	66.7	58.3	66.9	71.5
Mannesmann	65.1	63.4	49.6	37.0	45.7
Schering	47.1	58.0	46.6	33.7	36.7
Siemens	72.1	72.1	58.2	49.5	53.9
Thyssen	84.0	79.0	68.5	64.8	68.3
VEBA	80.9	78.3	65.2	51.1	46.2
Volkswagen	58.6	59.9	50.1	34.7	32.9

Source: Bundesverband deutscher Banken (http://www.bdb.de)

Table 2: Composition of Supervisory Boards of the 100 Largest German Firms

Occupation or affiliation of board member	1986	1988	1992	1993
	Number of board seats (percent of total seats)			
Employee of the firm	520 (35)	542 (36)	519 (35)	549 (35)
Labor union executive	197 (13)	187 (13)	191 (13)	211 (14)
Active or retired executive of another firm, other than a bank	368 (25)	385 (26)	385 (26)	427 (27)
Executive of a private bank	114 (8)	104 (7)	103 (7)	99 (6)
Executive of a non-private bank	51 (3)	57 (4)	49 (3)	53 (3)
Practicing attorney	147 (10)	152 (10)	153 (10)	155 (10)
Politician or civil servant	69 (5)	69 (5)	80 (5)	67 (4)
Total board members	**1,466 (100)**	**1,496 (100)**	**1,480 (100)**	**1,561 (100)**

Source: Bundesverband deutscher Banken (http://www.bdb.de)

Table 3: Largest Blockholders in a Sample of Large German Firms

	Number of firms
Firms without any blockholder	9
Firms with a blockholder	189
Total	198
Type of largest blockholder	**Number of blocks**
Foreign government	1
Not-for-profit organization (*Verein*)	1
Domestic insurance company	2
Domestic government (including foundations)	11
Domestic bank	16
Foreign nonfinancial company	21
Family (including trusts)	43
Domestic nonfinancial company	96
Total	200*
Size of largest block held by domestic nonfinancial company (fraction of voting stock = x)	**Number of blocks**
$x < 0.25$	4
$0.25 \leq x \leq 0.5$	14
$0.5 < x \leq 0.75$	32
$x > 0.75$	46
Total	96

*Two firms had blockholders of equal size.

Gorton and Schmid (1998a, Table 3); *Hoppenstedt Aktienführer 1994.*

Table 4: Equity Stakes Held by Banks

	1986	1989	1994
Number of firms in which banks hold equity stakes (includes all corporations)	89	101	135
Fraction of the firm's outstanding equity owned by banks (x = all banks' stake)	Number of firms in which banks held this equity stake (percentage)		
$0.1 < x \leq 0.25$ (minority)	47 (53)	63 (62)	77 (57)
$0.25 < x \leq 0.5$ (blocking minority)	33 (37)	29 (29)	43 (32)
$x > 0.5$ (majority)	9 (10)	9 (9)	15 (11)
Number of *traded* firms in which banks hold equity stakes	46	38	30
Fraction of the firm's outstanding equity owned by banks (x = all banks' stake)	Number of firms in which banks held this equity stake		
$0.1 < x \leq 0.25$ (minority)	19 (41)	23 (61)	19 (63)
$0.25 < x \leq 0.5$ (blocking minority)	23 (50)	12 (32)	8 (27)
$x > 0.5$ (majority)	4 (9)	3 (7)	3 (10)

Source: Bundesverband deutscher Banken (http://www.bdb.de)

1. For surveys of corporate governance that focus on or include the United States, see Jensen (1993) or Shleifer and Vishny (1997).

2. Market makers will be eliminated from the first segment of the Frankfurt Stock Exchange when the electronic trading system, Xetra, is fully implemented.

3. Karl Marx, among many others, was heavily influenced by Hegel's views on history and society.

4. Banks are legally entitled to deviate from the announced voting behavior if new relevant information arrives between the contact with the shareholders and the annual meeting. The legal rules for this discretionary behavior are very strict, however.

5. The Volkswagen AG voting restrictions differ from any other voting restrictions subsequently adopted by German stock corporations in two respects. First, the Volkswagen voting restrictions were established by law (the Volkswagen Privatization Act of 1960). Second, the restrictions apply not only to votes based on equity positions but also to proxy votes. This implies that there is an upper limit to the fraction of total voting stock a bank can represent at the annual meeting even if the votes a bank exercises in proxy are from small shareholders.

6. The two cases are Feldmühle Nobel AG (acquired by Stora Kopparberg Bergslags AB of Sweden) and Hoesch AG (acquired by Fried. Krupp GmbH). Feldmühle had a five percent voting restriction, while the limit for Hoesch was 15 percent. For details on these cases see Franks and Mayer (1994). For more details on the Hoesch-Krupp takeover, see the text below and Box 3. Schneider-Lenné (1994, p. 301) notes that Continental AG's voting restriction hindered Pirelli and its allies in their quest to take over Continental in 1990.

7. Prior to 1995, the threshhold for mandatory disclosure of a block shareholding in Germany was 25 percent. Spurred by efforts to harmonize European financial regulations, Germany adopted tighter disclosure thresholds beginning January 1st, 1995.

Investors must now disclose any purchases of stock that cause their stake in a firm to exceed 5, 10, 25, 50, or 75 percent of the total stock issued.

8. Information on bank equity positions in traded stock corporations is now easily accessible. The German equivalent of the U.S. Securities and Exchange Commission (SEC), the *Bundesaufsichtsamt für den Wertpapierhandel* (BAWe), publishes this data on the Internet (http://www.bawe.de). For nontraded firms such as companies organized as GmbHs, ownership data are sparse.

9. These numbers should be viewed skeptically, however, because they are the least comprehensive of three measures of equity: face value, book value, and market value. Face value is also known as par value; it is the nominal value of the shares at issue. Book value includes face value plus reserves that have been added over time through paid-in surplus and retained earnings. Market value is, of course, the number of shares outstanding times the market price per share at any given time. This last measure of the value of the firm's equity is likely to be the most meaningful for most purposes.

10. For details on two successful hostile takeovers, see Franks and Mayer (1994). They also give details on the unsuccessful attempt of Pirelli, an Italian tire-maker, to take over its German competitor, Continental AG. Another hostile takeover attempt that failed was made by Hochtief AG, a construction company. In a joint effort with Deutsche Bank, Hochtief acquired a majority stake in Philipp Holzmann AG, another construction company. Deutsche Bank and Hochtief announced in March 1997 that they would ask the European Commissioner for competition policy, Karel van Miert, for approval to pool their equity stakes. This was an attempt to evade the German antitrust agency (*Bundeskartellamt*), which opposed the takeover. The request was submitted in April but was withdrawn in June after Deutsche Bank and Hochtief were notified that the European Commission lacked standing to rule on the matter.

11. The decline of the fraction of stock directly owned by households may also be due simply to organizational changes at the firm level. Suppose there is only one stock corporation in the economy, the equity of which is owned by households. The value of

the firm's equity is 100 DM. The firm then decides to adopt a new structure with a holding company at the top and a one hundred percent-owned subsidiary at the bottom. Households receive DM 100 worth of equity in the holding company, while the holding company owns the shares of the subsidiary, also worth DM 100. Thus, the household's ownership share of total stock outstanding has fallen from 100 percent to 50 percent. But of course, nothing fundamental has changed. In fact, many of the largest firms have recently moved toward a holding company structure, including Daimler-Benz AG and Hoechst AG.

12. Franks and Mayer (1994) illustrate the practice of pyramiding in Germany with the case of Mercedes Holding AG. This holding company served as "firm B" in the scheme outlined in the text to allow a few large German investors ("firm A") to maintain control over Daimler-Benz AG ("firm C") despite investing less than a majority of the capital in the target firm. It should be noted that the case of Mercedes Holding AG is atypical in some respects, however. The holding company was set up in 1975 with the encouragement of government officials as an anti-takeover device when it appeared that oil-rich investors from the Middle East might attempt to gain control over some of the "crown jewels" of German industry in the wake of very low stock prices. Mercedes Holding AG was dissolved in 1994.

13. For example, there is an extensive literature in Germany debating the "power of the banks," ranging from more or less well informed contributions in the popular press to well-researched publications in academic journals.

14. Apparently misled by its name, the authors classified Holderbank Financiere as a bank. In fact, Holderbank is a cement group. Its name is taken from the town of Holderbank, located in the Swiss canton of Aargau, where the company was founded in 1912 (http://www.holderbank.com).

15. Given that the marginal return on corporate control is decreasing and the marginal costs are non-decreasing, the actual level of monitoring exerted by the bank will be too low from the standpoint of maximizing the wealth of all shareholders.

16. This relationship is consistent with a U-shaped relationship between ROE and bank equity ownership because the total return on assets is a weighted sum of the interest rate on debt and the return to equity. The weights are the fractions of debt and equity in total assets, respectively. These weights may adjust as the size of the bank's block changes.

17. Kraft (1989) reviews earlier work that was flawed by unreliable datasets and inappropriate empirical methods.

18. If ß is the regression coefficient in a semi-logarithmic model, then the percentage change of the dependent variable as a result of a switch of the dummy variable from zero to one is given by $100\times(e^{\beta}-1)$ (Halvorsen and Palmquist, 1980). Using the regression coefficients displayed in Table 2 of FitzRoy and Kraft (1993), the 19.7 percent reduction in value added can be calculated as follows: $(e^{0.13}-1)-(e^{-0.06}-1)=0.197$.

19. These finding are not directly comparable to the U.S. results presented by Jensen and Murphy (1990). This is because Jensen and Murphy used "first differences" instead of logarithmic values in their regressions. They found that CEO wealth changes by $3.25 for every $1,000 change in shareholder wealth.